

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.     **(Original)**     A vibration isolation system for at least partially damping and isolating vibrations of a body, the system comprising:  
          a plurality of active isolator devices mechanically coupled to the body; and  
          a control system configured to control the active isolator devices, wherein the control system is configured to: decouple vibrations in modal directions; determine a modal compensation signal for each modal direction; recouple each modal compensation signal into an active isolator control signal for each active isolator device; and stabilize at least one unstable natural mode of the body.
2.     **(Original)**     The vibration isolation system according to claim 1, wherein the at least one unstable natural mode stabilized by the control system is directed substantially vertically.
3.     **(Original)**     The vibration isolation system according to claim 1, wherein the body is positioned on a base frame by air mounts.
4.     **(Original)**     The vibration isolation system according to claim 1, wherein a passive isolator device and an active isolator device engage the body at the same location on the body.
5.     **(Original)**     The vibration isolation system according to claim 1, wherein the system comprises a plurality of sensors to detect vibrations of the body.
6. - 20.   **(Cancelled).**